



Name: _____

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Geometry, Period _____

Due Date: Fri, 21 Nov 2014

HW60_Product_vs_Power_Exponent_Rules

Form A

Geometry
3rd Homework

Quotient Rule Worksheet

Rewrite the following as single exponent using quotient rule:

Example: $\frac{3^5}{3^2} = 3^{5-2} = 3^3$

Use quotient rule and rewrite each expression as single exponent.

1) $17^{-18} \div 17^7$

2) $(-8)^{12} \div (-8)^9$

3) $11^{-6} \div 11^{-7}$

4) $(-10)^{-5} \div (-10)^{-12}$

5) $13^{11} \div 13^{-8}$

6) $3^{17} \div 3^9$

Use quotient rule and simplify. Write your answers in positive exponents.

1) $\frac{y^9}{y^3} \rightarrow y^{9-3}$
 y^6

~~2) $\frac{z^7}{z^2}$~~

3) $\frac{t^5}{t^4}$

4) $\frac{x^6}{x^4}$

5) $\frac{q^{10}}{q^3}$

6) $\frac{h^8}{h^5}$

7) $\frac{b^8}{b^6}$

~~8) $\frac{t^7}{t^2}$~~

9) $\frac{t^{10}}{t^8}$

Use quotient rule and simplify. Write your answers in positive exponents.

$$1) \frac{4s^{-3}t^{-4}}{8s^6t^8}$$

$\frac{4}{8} = \frac{1}{2}$ $(-3-6) = -9$ $(-4-8) = -12$

$\frac{1}{2} \cdot s^{-9} \cdot t^{-12}$

$\frac{1}{2s^9t^{12}}$

$$2) \frac{3u^8v^4}{7u^5v^2}$$

~~$$3) \frac{5p^2q^2}{5p^2q^6}$$~~

$$4) \frac{7a^{-3}b^9}{2a^2b^{-5}}$$

~~$$5) \frac{4m^4n^4}{9m^2n^2}$$~~

$$6) \frac{r^{-4}s^5}{r^{-8}s^{-9}}$$

$$7) \frac{9v^{-10}w^4}{7v^3w^{10}}$$

$$8) \frac{3g^{-9}h^4}{8g^{-6}h^8}$$

~~$$9) \frac{5m^2n^5}{3m^4n^5}$$~~

$$10) \frac{2k^5l^{-10}}{8k^9l^{-5}}$$

~~$$11) \frac{8l^{-6}c^{-5}}{9l^{-8}c^{-2}}$$~~

$$12) \frac{7q^5r^{-4}}{5q^6r^7}$$

$$13) \frac{8^6}{8^2}$$

$$14) \frac{8w^4x^2}{3w^{-5}x^{-10}}$$

~~$$15) \frac{7x^{10}y^5}{9x^5y^5}$$~~

$$16) \frac{8cd^9}{2c^{-8}d^4}$$

~~$$17) \frac{4m^9n^9}{m^6n^9}$$~~

$$18) \frac{p^{-6}q^2}{8p^{10}q^{-5}}$$